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tesa AG 661-WCG
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants : Uwe SCHUMANN, et al.
Serial No. : 09/698,404
Filed : October 27, 2002
For : PROCESS FOR CONTINUOUS MANUFACTURE OF
SELF-ADHESIVE ARTICLES BY COATING INCOMING
WEB-FORM MATERIALS WITH TWO-COMPONENT
POLYURETHANES
Art Unit : 1734
Examiner : Sing P. Chan

September 20, 2004

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 CFR § 1.192

Sir:

This is an appeal from the final rejection.

1. REAL PARTY IN INTEREST

The instant application is owned by tesa AG, record owner hereof.

2. RELATED APPEALS AND INTERFERENCES

The undersigned is not aware of any appeals, interferences, reexaminations,

infringement actions or the like in any related applications.

3. STATUS OF CLAIMS

The claims pending in this application are claims 1-8, and all of said claims are on appeal.

4. STATUS OF AMENDMENTS

The last amendment was that filed on July 24, 2002 (mailing date) and that amendment was entered. There are no outstanding amendments.

5. SUMMARY OF THE INVENTION

Each of the appealed claims relates to a novel process for the continuous production of self-adhesive articles, wherein a polyurethane-forming reactive mixture of polyol and isocyanate components are continuously applied to a first backing material which is coated with a pressure sensitive adhesive composition, the isocyanate and polyol reacting on the adhesive coated backing material to form a polyurethane composition and the resulting laminate passed through a heat tunnel wherein the polyurethane composition cures, and the laminate is then wound in a winding station.

Unlike the prior art processes, the laminate produced by the instant process can be wound up immediately after exiting the heat tunnel, without the requirement of allowing the polyurethane to complete a further hardening. This further hardening, which typically is required in the prior art, can take several days to accomplish in the prior art.

It is surprising that Appellants' laminate, with the cured but unhardened polyurethane, can be wound up without adverse effect. Those skilled in the art would have expected adverse effects, such as wrinkles and/or waves to have resulted.

6. ISSUES

The issues are

- A) Whether claims 1-8 are unpatentable under 35 USC 103(a) as obvious over Schumann et al (US 6,129,983) in view of Cotsakis et al (U.S. 5,686,179).
- B) Whether claim 8 is unpatentable under 35 USC 103(a) as obvious over Schumann et al (US 6,129,983) in view of Cotsakis et al (U.S. 5,686,179 and further in view of the so-called admitted prior art.

7. GROUPING OF CLAIMS

For each ground of rejection, the claims stand and fall together.

8. ARGUMENTS

- A) **The rejection of claims 1-8 under 35 USC 103(a) as obvious over Schumann et al (US 6,129,983) in view of Cotsakis et al (U.S. 5,686,179)**

The Examiner acknowledges that Schumann does not disclose mixing the components continuously, continuously applying the mixture to the release paper, and

rolling the laminate at a winding station. The Examiner turns to Cotsakis, however, for what he sees as a teaching of continuously mixing the components *in a continuous mixing extruder*, continuously applying the mixture to the release paper, curing the mixture in a continuous oven, rolling the tape onto a tape core to form a tape roll.

The Examiner therefore concludes that it would be obvious to apply the techniques of Cotsakis to Schumann, to somehow arrive at Appellants' process.

There are, however, a number of details overlooked by the Examiner, which will show that his conclusion is not correct.

First of all, the Examiner overlooks the fact that Cotsakis is not really a continuous process, as Cotsakis' reactants are initially prepared in a batch mixer. See, for example, Col. 5, lines 43-50, wherein Cotsakis teaches that

"the brominated isoprene...are combined in a mixer...preferably a Banbury-type intensive batch mixer, where they are mixed and blended to form a rubbery mass... The resultant mass is then chopped using a conventional rubber chopper..."

This is clearly not a continuous process, notwithstanding the use of a continuous mixing extruder downstream of the foregoing step.

Secondly, Cotsakis has nothing to do with the formation of a polyurethane backing. Cotsakis is concerned with an EPDM type polymeric mixture, which uses a peroxide

initiator. The technology of EPDM is completely different than the technology of polyurethanes!

Moreover, Cotsakis has nothing to do with the application of a backing to an adhesive layer; Cotsakis is concerned only with a single-layer tape.

In addition Cotsakis rolls up an essentially uncured single-layered tape, which he can do because of the composition of his particular tape. Those skilled in the art, in the absence of Appellants' disclosure, would never think of rolling up an unhardened *polyurethane* tape! In this regard, see Col. 8, lines 6-13, of Schümann, wherein Schümann cures and stores his *polyurethane* backing for one week before applying the adhesive!

Thus, no person skilled in the art would ever combine Cotsakis and Schümann, as the two are dealing with two completely different kinds of tape (single layer vs. backing + adhesive layers), and completely different kinds of chemistry (EPDM + vs. polyurethane). In addition, no person skilled in the art would think it possible to continuously form a polyurethane backing onto an adhesive and then wind it up without allowing several days for the polyurethane to harden.

Those skilled in the art would find Appellants' continuous process completely surprising.

Nothing in the references cited would suggest that Appellants' process would be

possible. To the contrary, the cited references would teach away from Appellants' process; especially in view of Schumann's teaching to cure and store the backing for one week before applying the adhesive.

The Examiner may see the language at Col 8, lines 18-32, as an argument against the foregoing. However, nothing in this language addresses the step of winding the tape up on a roll, or the "curing and storage" of the tape prior to rolling it up, which is taught in the immediate preceding language. There is therefore no suggestion of including the winding-up step in a continuous process.

Thus, Appellants' process cannot be seen as obvious over Schumann et al in view of Cotsakis, and the rejection of claims 1-8 under 35 U.S.C. 103(a) as obvious over said references should now be REVERSED.

B) The rejection of claim 8 under 35 USC 103(a) as obvious over Schumann et al (US 6,129,983) in view of Cotsakis et al (U.S. 5,686,179), and further in view of the so-called admitted prior art

The Examiner relies on the "admitted prior art" for a teaching of various dehesive media. The differences between Appellants' process and anything that could be derived from the Schumann/Cotsakis references are far greater than the use of specific dehesive media, as discussed above. The use of specific dehesive media in the Schumann or Cotsakis processes, will not in any way convert either of them to Appellants'. In addition,

as stated above, it would be virtually impossible to combine the processes taught by these two references in any meaningful way, since the processes themselves are fundamentally different, and the chemistries of the materials they are dealing with are fundamentally different.

The rejection of Claim 8 under 35 U.S.C. 103(a) as obvious over Schumann et al in view of Cotsakis and further in view of the so-called "admitted prior art" should accordingly now be REVERSED.

9. CONCLUSION

Wherefore it is submitted that the final rejection is in error and should be REVERSED.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, appellant requests that this be considered a petition therefor. Please charge the required Petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account

No. 14-1263.

Respectfully submitted,

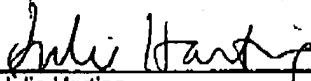
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By 
Julie Harting
Date September 20, 2004

10. APPENDIX

The claims are appeal read as follows:

Claim 1. A process for continuous production of self-adhesive articles, wherein

- a) essentially one polyol component is placed in a container A and essentially one isocyanate component is placed in a container B,
- b) the polyol component and the isocyanate component are continuously supplied to and mixed in a mixer, to form a polyurethane-forming reactive mixture,
- c) the polyurethane-forming reactive mixture is continuously applied to a first backing material which is coated with a pressure-sensitive adhesive composition and moves optionally at a constant speed, the isocyanate component and polyol component reacting on the adhesive-coated backing material to form a polyurethane composition,
- d) the resulting laminate, comprising the first backing material, pressure-sensitive adhesive composition and polyurethane composition, is passed through a heat tunnel, in which the polyurethane composition cures,
- e) the laminate is wound in a winding station.

Claim 2. The process as claimed in claim 1, wherein a second backing material is applied to the polyurethane-forming reactive mixture on the first backing material and, optionally is peeled off after the heating tunnel.

Claim 3. The process as claimed in claim 2, wherein the second backing material is treated with a pressure-sensitive adhesive composition.

Claim 4. The process as claimed in claim 1, wherein upstream of the mixer there are further containers for catalysts, plasticizers, dyes and other additives, which optionally are introduced and added.

Claim 5. The process as claimed in claim 1, wherein the polyurethane-forming reactive mixture is applied onto the pressure-sensitive adhesive material.

Claim 6. The process as claimed in claim 2, wherein the first or second backing material used comprises a dehesive media.

Claim 7. A single- or double-sided self-adhesive tape obtained by a process as claimed in claim 1.

Claim 8. The process of claim 6 wherein said dehesive media is selected from the group consisting of release paper, release film, a woven, a nonwoven, film or an elastomer.